



# *FORT BLISS, TX*

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## Potential Fort Bliss Solar Renewable Projects and Ongoing Construction

January 18, 2007



# Overview of Presentation

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- Purpose of Study
- Sites Investigated
- Individual Site Findings
  - Block Map View
  - Site Picture
  - Project Details
- Contracting Options for Procurement



# Purpose of Renewable Project Survey

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- Determine if geography will allow for renewable sites
- Develop preliminary pricing
- Develop preliminary savings
- Provide Fort Bliss with sufficient facts to decide if a project is desired
- Provide Fort Bliss with various alternative to accomplish renewable projects



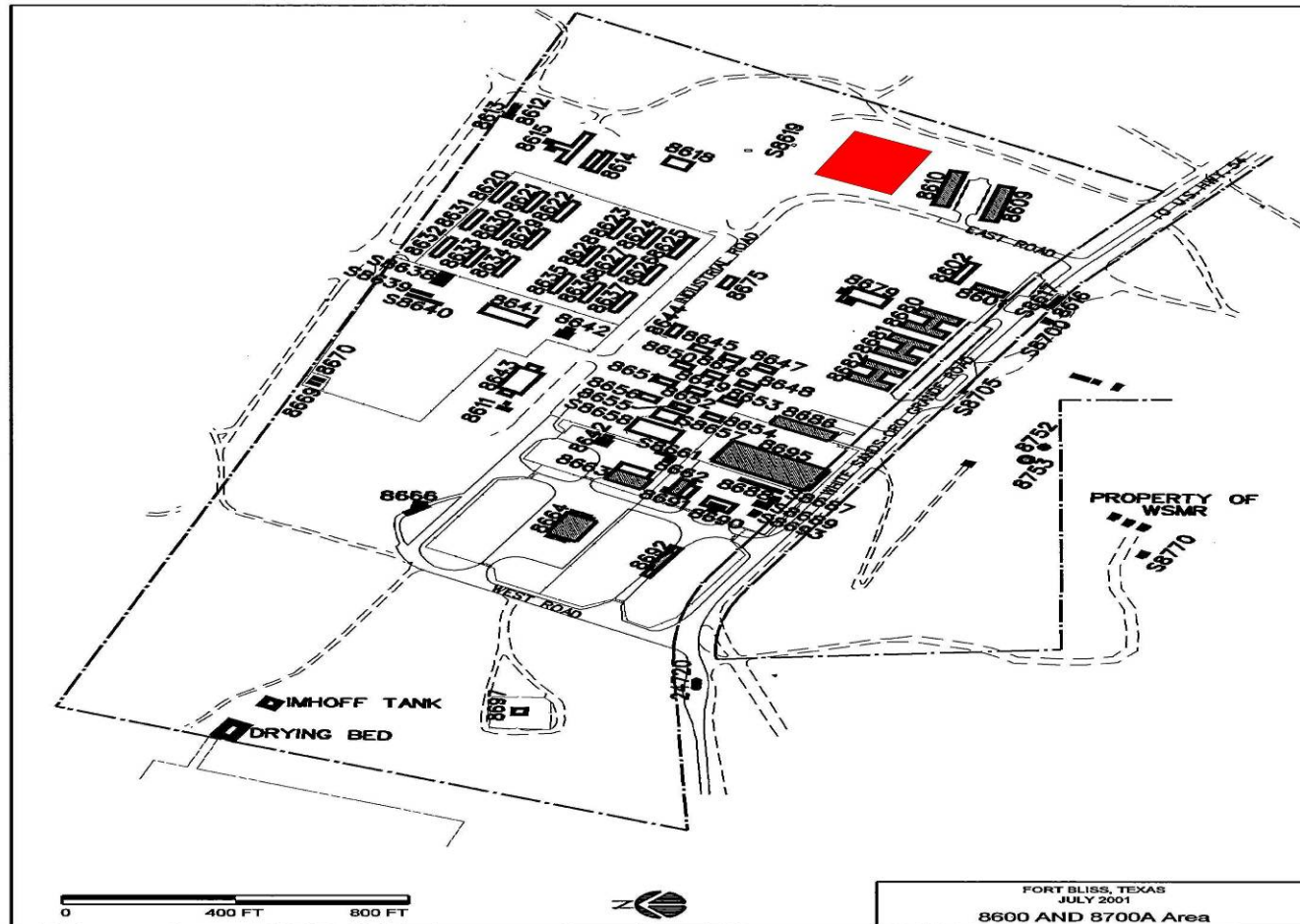
# Sites Investigated

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- Oro Grande Range
- McGregor Range
- Dona Ana Range
- Aquatic Center
- Stafford Dining Facility
- Sergeants Major Academy



# Oro Grande Range Photovoltaic Site



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# Oro Grande Range Photovoltaic Site





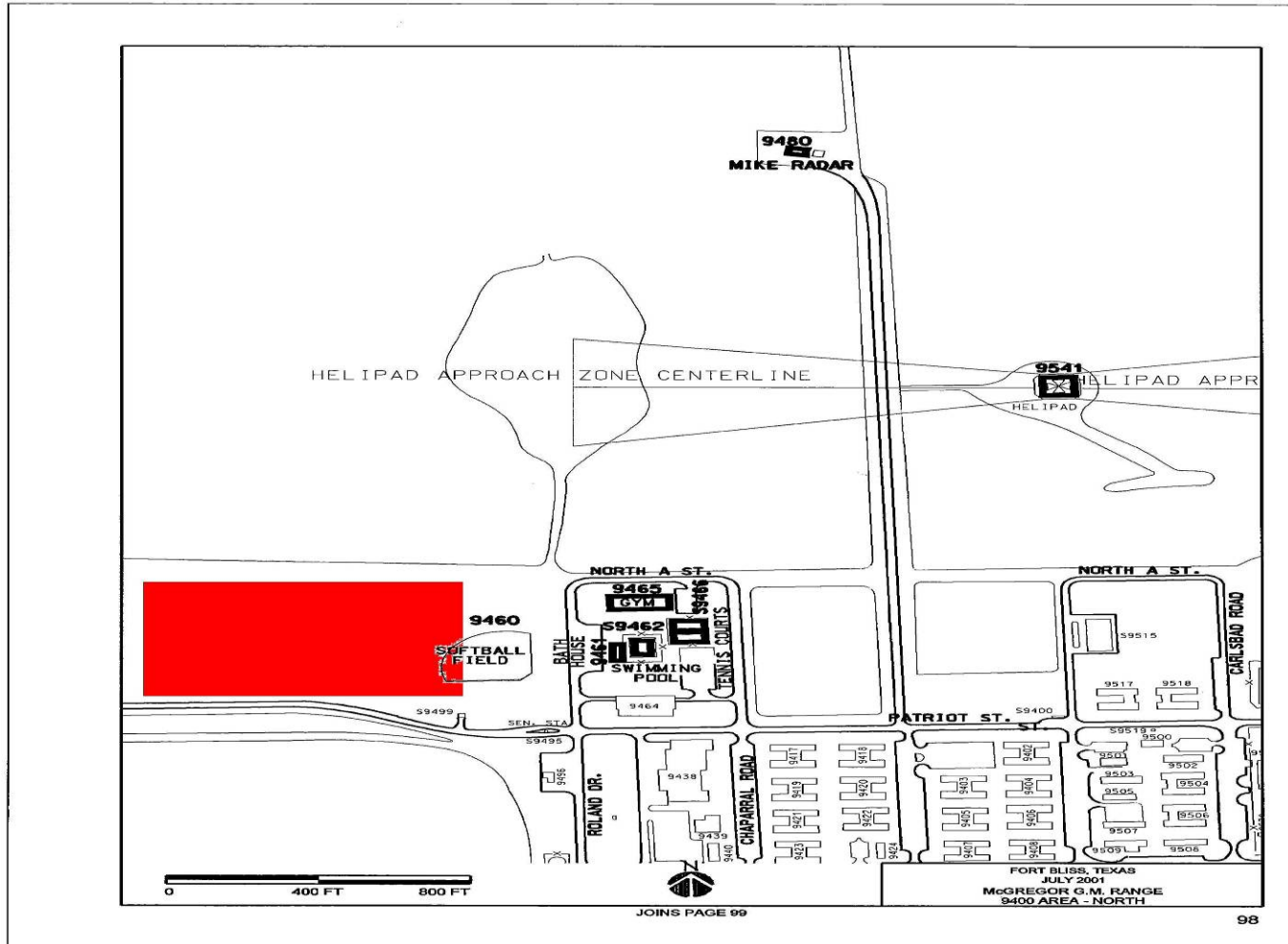


# Oro Grande Range Photovoltaic Site

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- 36,000 sq ft surface area of PV panels
- Total power output - 427.5kw
- System Price - \$4,308,800
- Energy Savings - \$106,376
- Simple Pay Back – 40.5 years







# McGregor Range Photovoltaic Site A





# McGregor Range Photovoltaic Site A

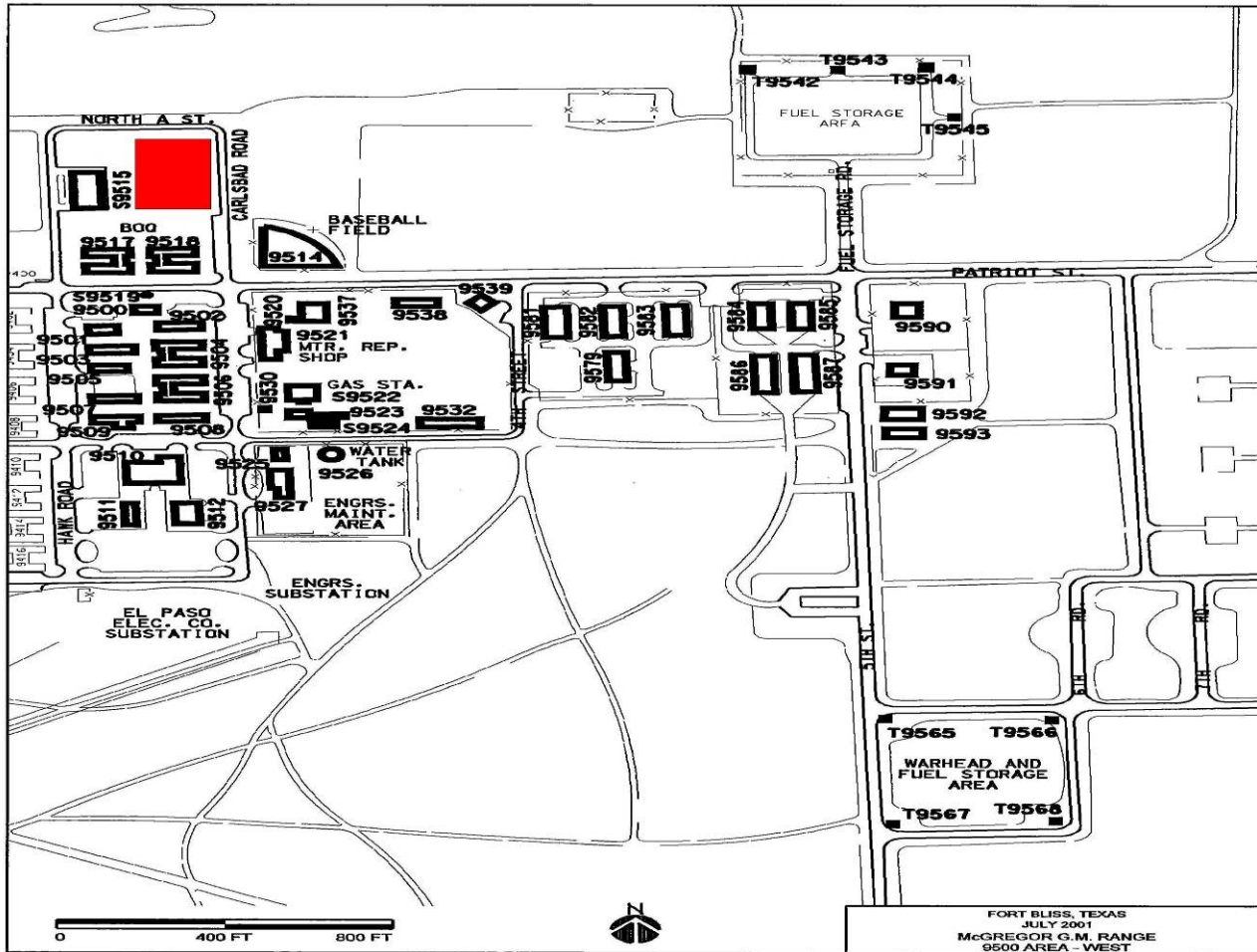
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- 180,000 sq ft surface area of PV panels
- Total power output – 2.137Mw
- System Price - \$21,253,386
- Energy Savings - \$528,196
- Simple Pay Back – 40.23 years



# McGregor Range Photovoltaic Site B



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# McGregor Range Photovoltaic Site B





# McGregor Range Photovoltaic Site B

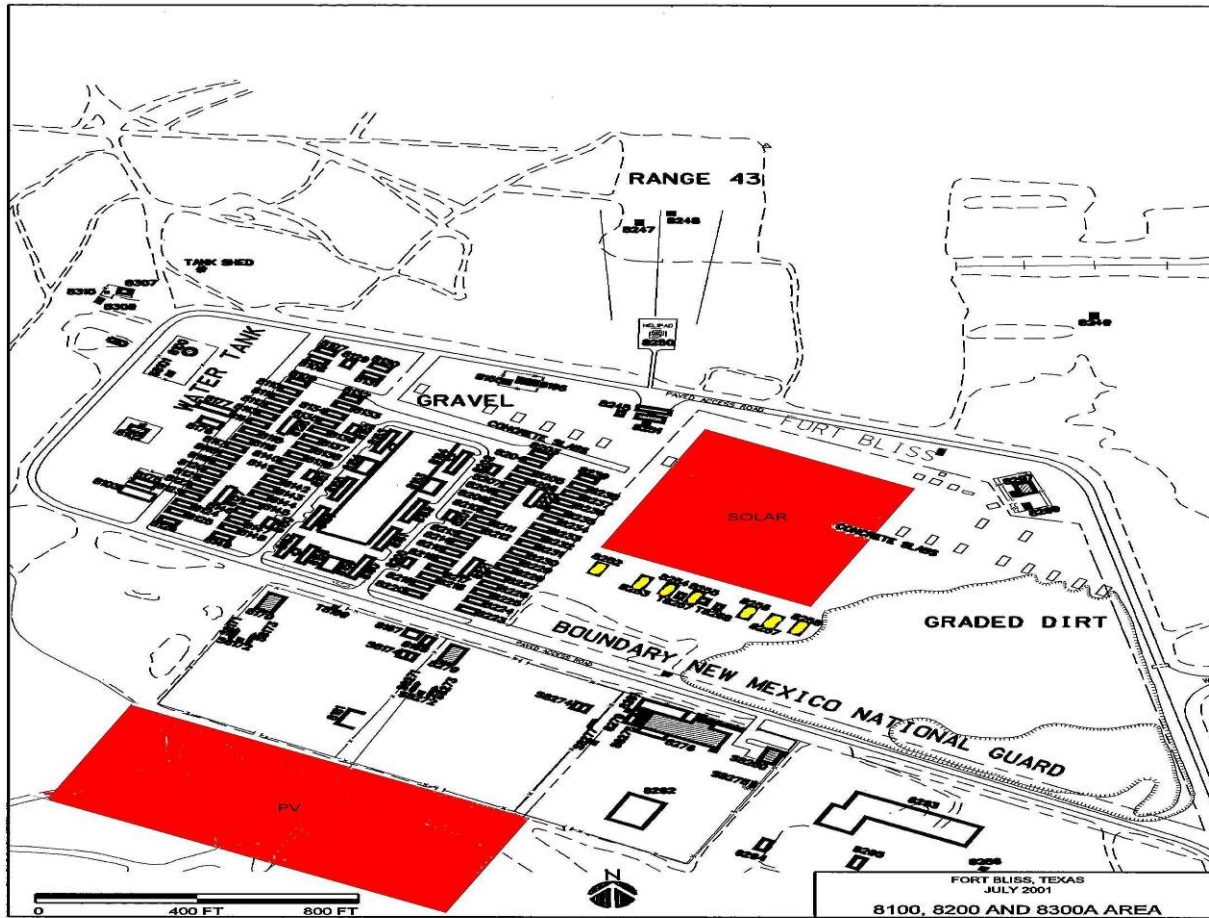
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- 18,000 sq ft surface area of PV panels
- Total power output – 2.137kw
- System Price - \$2,279,459
- Energy Savings - \$52,820
- Simple Pay Back – 43.15 years

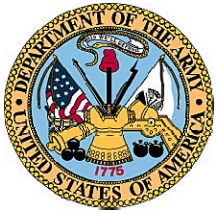


# Dona Ana Range PV & Solar Water Heating Sites



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# Dona Ana Range Photovoltaic Site





# Dona Ana Range Photovoltaic Site

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- 150,000 sq ft surface area of PV panels
- Total power output – 1.78Mw
- System Price - \$18,686,716
- Energy Savings - \$440,164
- Simple Pay Back – 42.45 years





# Dona Ana Range Solar Water Heating Site





# **Dona Ana Range Solar Water Heating Site**

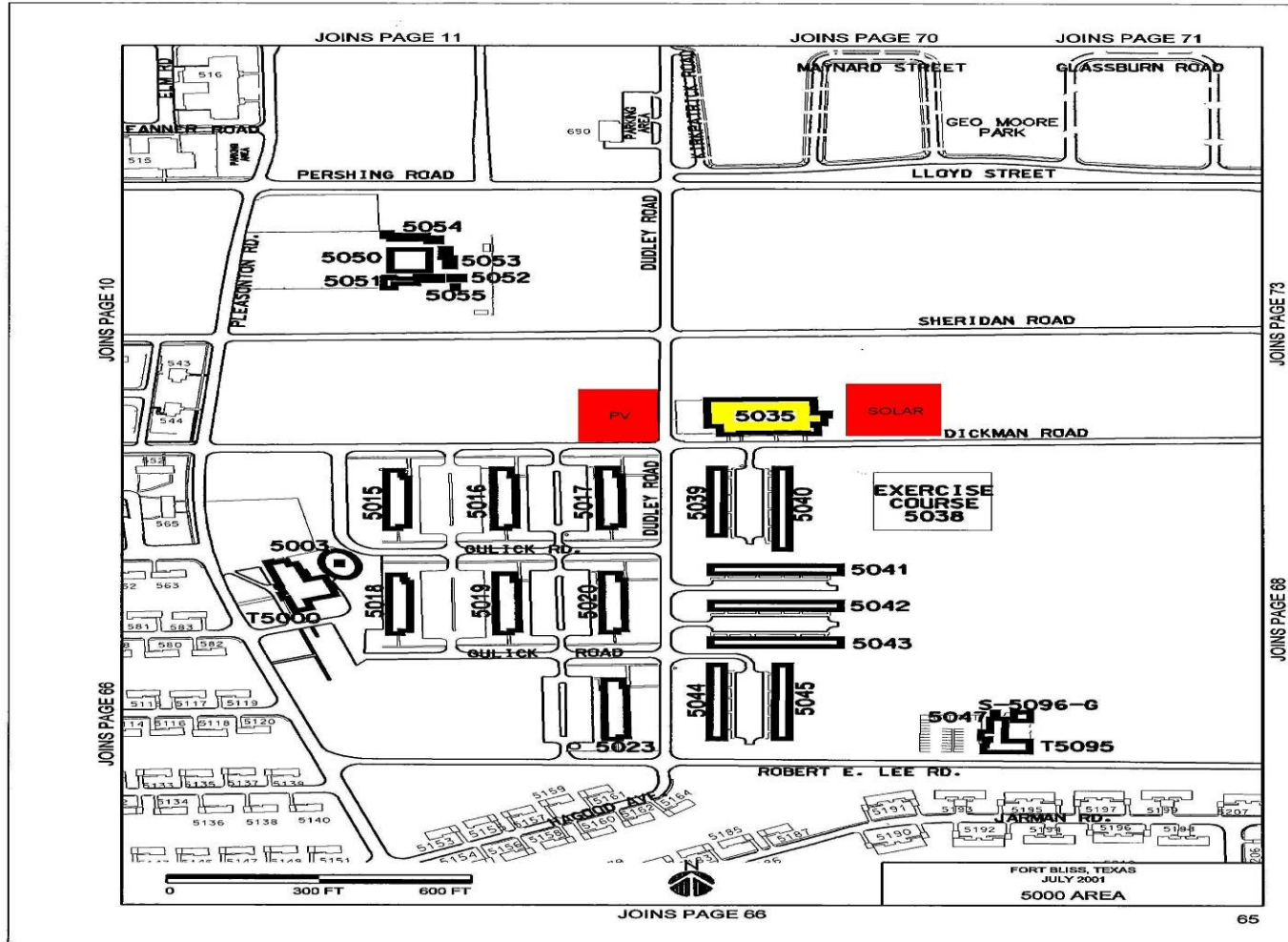
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- 6,000 sq ft surface area of solar water heating panels
- Total power output – 3000 MCF
- System Price - \$582,104
- Energy Savings - \$32,643
- Simple Pay Back – 17.83 years



# Aquatic Center PV & Solar Water Heating Sites







# Aquatic Center Photovoltaic Site







# Aquatic Center Photovoltaic Site

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- PV array will be integrated as part of a carport structure.
- Total power output – 366.8kw
- System Price - \$2,294,867
- Energy Savings - \$49,422
- Simple Pay Back – 46.4 years



# Aquatic Center Solar Water Heating Site



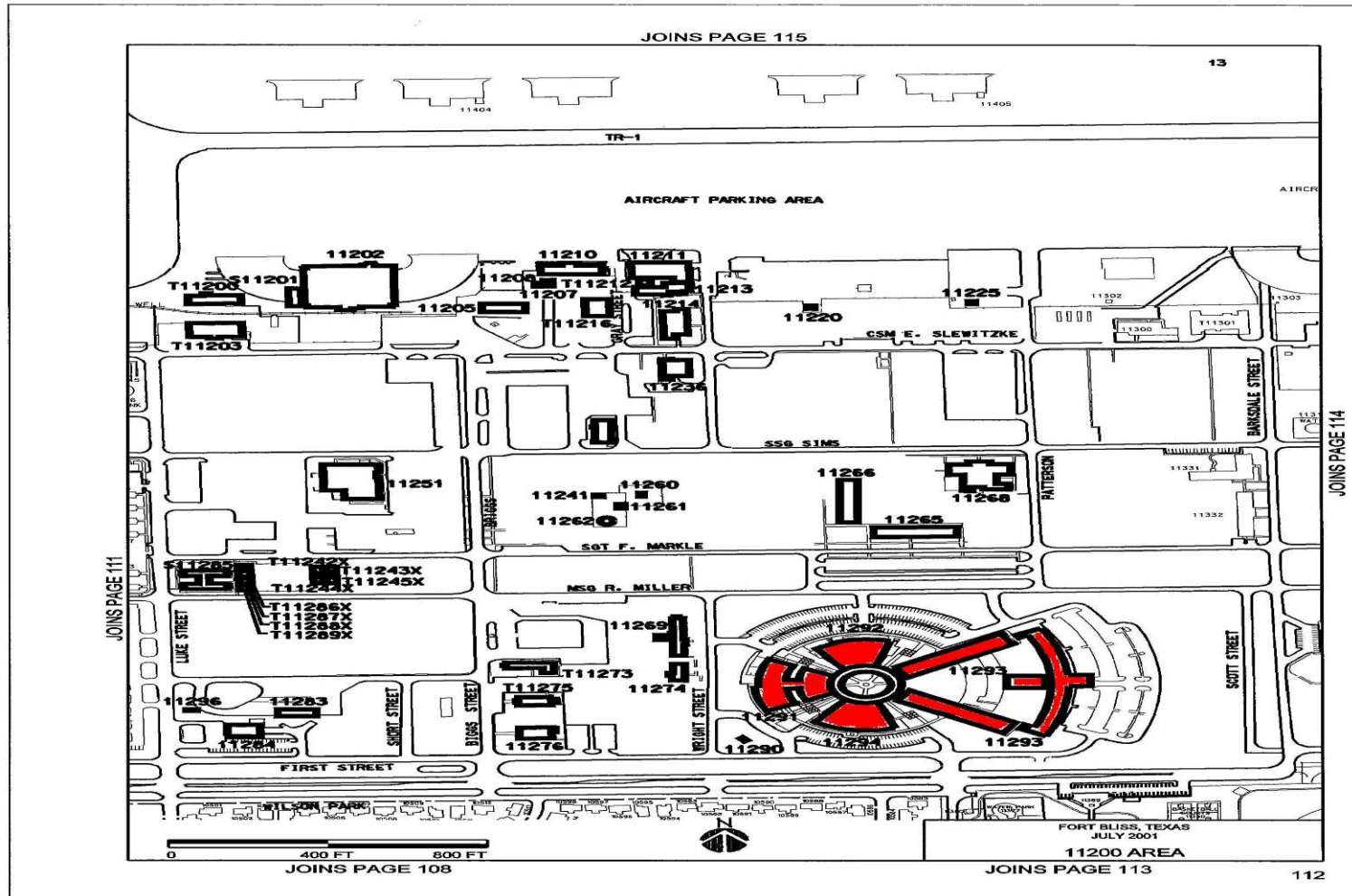


# Aquatic Center Solar Water Heating Site

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- 36,000 sq ft surface area of PV panels
- Total power output – 2670 MCF
- System Price - \$590,059
- Energy Savings - \$15,795
- Simple Pay Back – 37.35 years





# Sergeants Major Academy Photovoltaic Site







# Sergeants Major Academy Photovoltaic Site

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- 79,920 sq ft surface area of PV panels mounted flat on the roof
- Total power output – 1Mw
- System Price - \$12,041,834
- Energy Savings - \$91,522
- Simple Pay Back – 131 years





# Contracting Options for Procurement

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- Funded Contracts –
  - UMCS II – Huntsville Center of Excellence managed contract.
  - ECIP
- Financed Contracts –
  - DOE Super ESPC
  - Huntsville 46 State ESPC
  - Utility UESC



# Pilot Project

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- Phase I – 1.5 Megawatts (Pilot)
  - Ponding Area
  - Roof tops
- Phase II – 20 Megawatts
- Phase III – 40 Megawatts
- Phase IV - Gigawatt
  - Power the Army
  - Statutory authority to transport power across State lines
  - Peak shave for other Army Installations



# Operations

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- Power plants metered
- Contractor
  - Designs
  - Installs
  - Maintains
- Ft. Bliss
  - Provides permits
  - Oversees installation
  - Monitors control system



# Ongoing Construction Projects

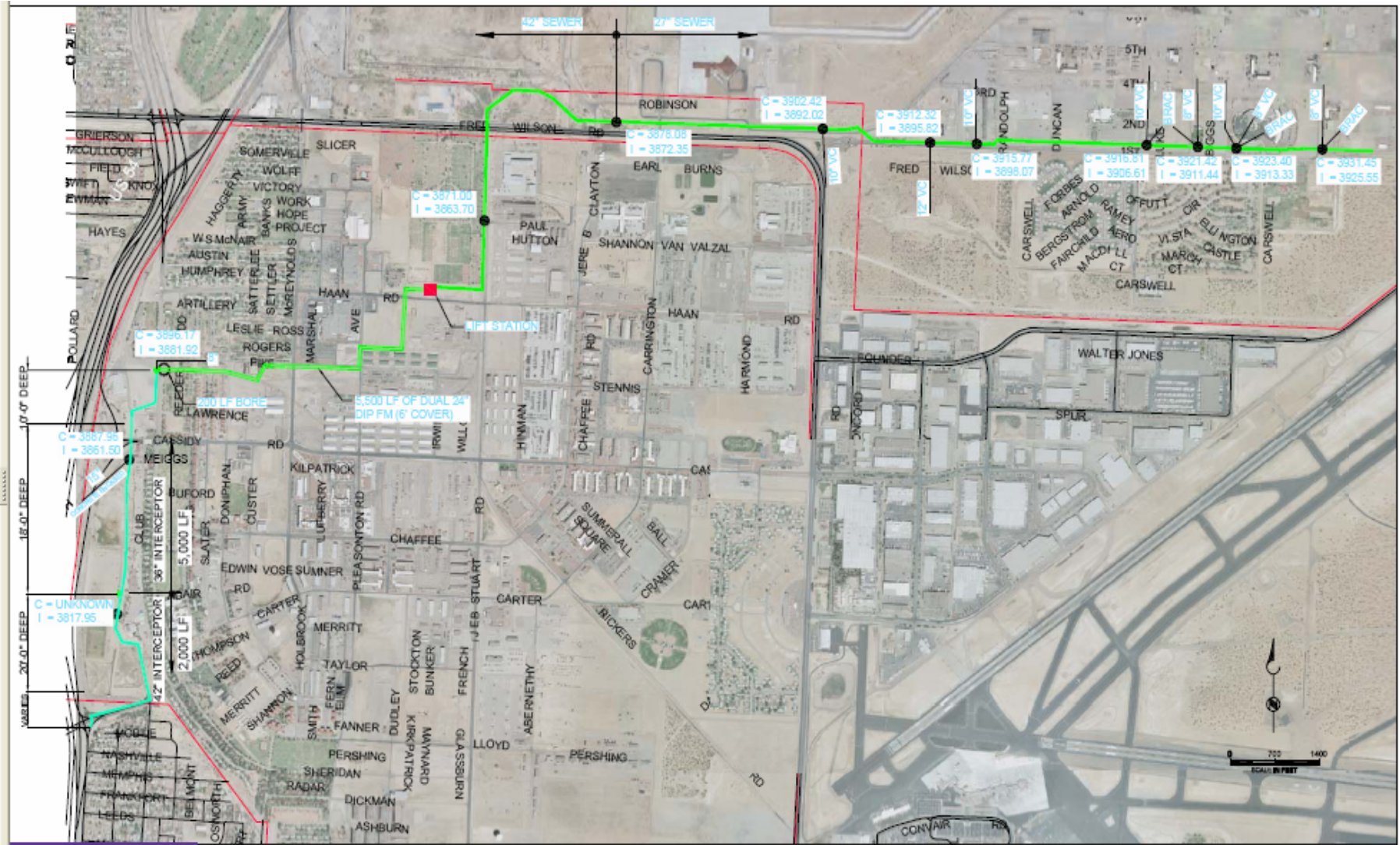
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- **Sewer Interceptor Line- UP Construction**
  - 6.2 Miles
  - New lift Station
  - \$19.6 Million
- **TXDOT Inner Loop**
  - 7.8 Miles



# Sewer Interceptor Line







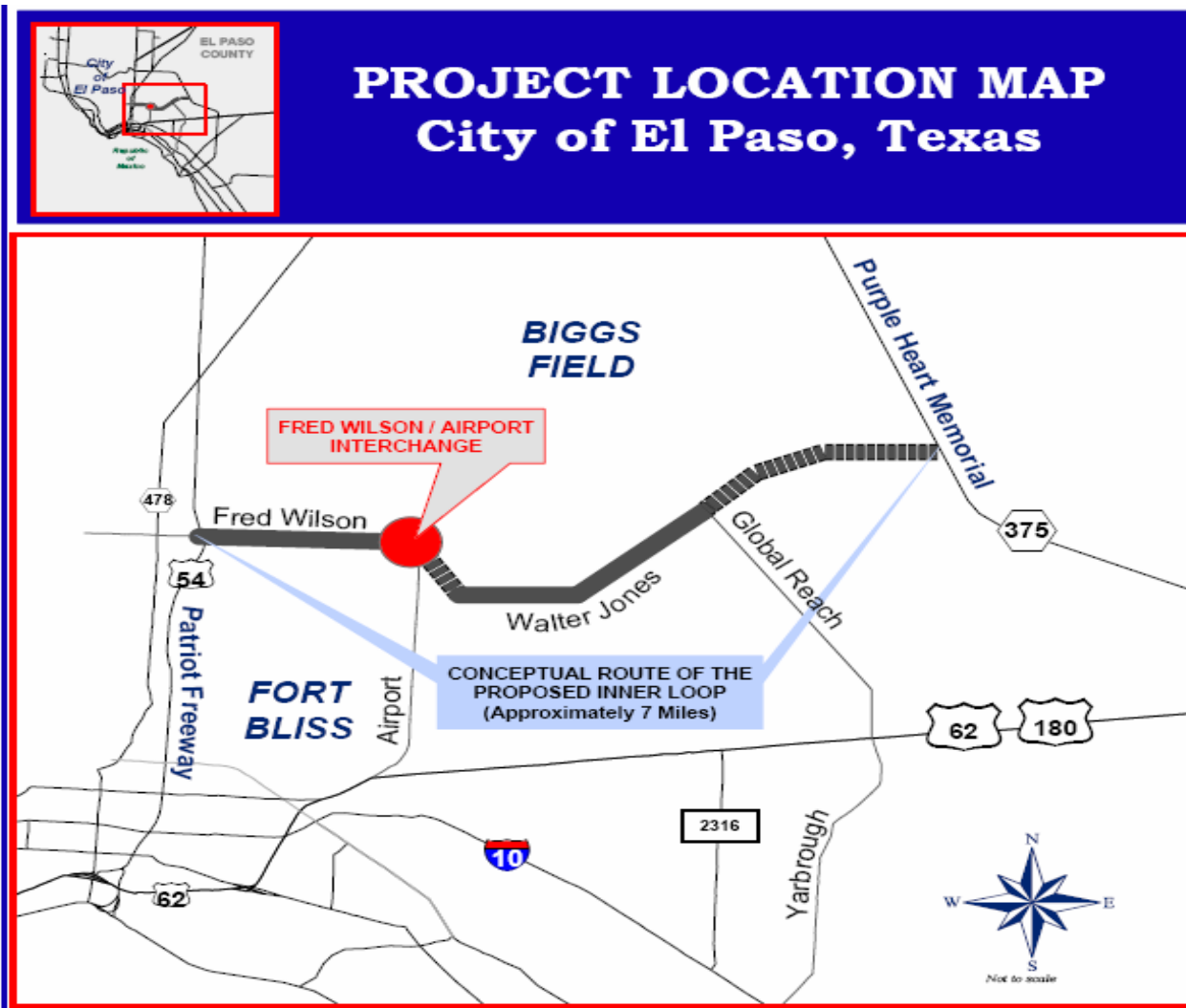
# TXDOT Inner Loop







# TXDOT Inner Loop



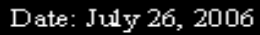


# East Biggs Construction

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- Brigade Combat Training Sites
- Combat Aviation Brigade





# Brigade Combat Training Complex









# *FORT BLISS*

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## **Questions & Comments**